



Attorney Docket No. 2001P11003WOUS

**UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Egbert Classen et al  
Application Number: 10/694,599  
Filing Date: 10/27/2003  
Group Art Unit: 3652  
Examiner: Gregory W. Adams  
Title: APPARATUS FOR LOADING AND/OR UNLOADING  
A TRANSPORT COMPARTMENT

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

Pursuant to 37 CFR 1.192, Appellants hereby file an appeal brief in the above-identified application. This Appeal Brief is accompanied by the requisite fee set forth in 37 CFR 1.17(f).



PTO/SB/17 (10-07)

Approved for use through 06/30/2010. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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# FEE TRANSMITTAL

## For FY 2008

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)

510.00

**Complete if Known**

Application Number	10/694,599
Filing Date	10/27/2003
First Named Inventor	Egbert Classen et al
Examiner Name	Gregory W. Adams
Art Unit	3652
Attorney Docket No.	2001P11003WOUS

**METHOD OF PAYMENT (check all that apply)**☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify):☒ Deposit Account Deposit Account Number: 502786 Deposit Account Name: BSH Home Appliances Corp.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

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**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	310	155	510	255	210	105	
Design	210	105	100	50	130	65	
Plant	210	105	310	155	160	80	
Reissue	310	155	510	255	620	310	
Provisional	210	105	0	0	0	0	

**2. EXCESS CLAIM FEES****Fee Description**

Each claim over 20 (including Reissues)

Fee (\$)	Small Entity Fee (\$)
50	25

Each independent claim over 3 (including Reissues)

210	105
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Multiple dependent claims

370	185
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Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
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- 20 or HP =	x	50.00	=
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HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
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- 3 or HP =	x	210.00	=
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HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$260 (\$130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
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- 100 =	/ 50 =	(round up to a whole number) x	=	
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**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Fees Paid (\$)

Other (e.g., late filing surcharge): Appeal Brief Fee

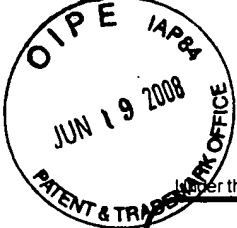
510.00

**SUBMITTED BY**

Signature	<i>Russell W. Warnock</i>	Registration No. (Attorney/Agent)	32,860	Telephone	252-672-7927
Name (Print/Type)	Russell W. Warnock	Date	June 17, 2008		

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/17 (10-07)

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Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
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**4. OTHER FEE(S)**

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Other (e.g., late filing surcharge): Appeal Brief Fee

Fees Paid (\$)

510.00

**SUBMITTED BY**

Signature	<i>Russell W. Wamock</i>	Registration No. (Attorney/Agent)	32,860	Telephone	252-672-7927
Name (Print/Type)	Russell W. Wamock			Date	June 17, 2008

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ATTORNEY DOCKET NO.: 2001P11003WOUS

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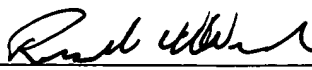
Serial No.: 10/694,599  
Filing Date: 10/27/2003  
Applicant: Egbert Classen et al  
Title: APPARATUS FOR LOADING AND/OR UNLOADING A  
TRANSPORT COMPARTMENT  
Date of Deposit: June 17, 2008  
Type of Document(s): Certificate of Mailing (1 page);  
Fee Transmittal, Original and Copy (2 pages);  
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June 17, 2008  
Date of Deposit

Russell W. Warnock

  
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(1) REAL PARTY IN INTEREST

The real party in interest is BSH Bosch und Siemens Hausgeraete GmbH.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) STATUS OF CLAIMS

Claims 1-18, 26, 30, 31 and 37 have been cancelled. Claims 19-25, 27-29, 32-36, 38 and 39 are pending in the application and have been finally rejected. The final rejection of claims 19-25, 27-29, 32-38, 38 and 39 is being appealed.

(4) STATUS OF AMENDMENTS

No Amendments have been filed subsequent to the Final Rejection.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

**CLAIM 19**

Independent Claim 19 of the present application recites an apparatus for at least one of loading and unloading multi-piece goods units to and from a transport compartment 10 in a loading and unloading direction (p. 14, ll. 16-21; p. 15, ll. 2-4). Referencing Figures 3-5, the apparatus 10 includes at least one conveying unit 13 being at least partly inserted into the transport compartment and simultaneously conveying a plurality of multi-piece goods units therein (p. 14, ll. 23-24; p. 15, ll. 1-4). The conveying unit 13 includes a plurality of beam guide members 32 fixed to

an overhead support structure 23. A unitary traveling support beam 20 is operatively connected to the beam guide members 32 for reciprocating travel into and out of the transport compartment (p. 14, ll. 23-24; p. 15, ll. 1-2). At least two gripping units 17 are operatively mounted to the unitary support beam 20 for movement therewith and disposed in spaced succession therealong for movement into and out of the transport compartment. Each gripping unit 17 includes a laterally oriented crossbeam 30 and two fixed length elongate legs 28, 29 mounted to said crossbeam 30 and being movable with respect to one another (p. 15, ll. 2-9). The multi-piece goods units 16 are clamped between the two fixed length elongate legs 28, 29 in general centered alignment with respect to the support beam 30 when the gripping unit 17 engages the multi-piece goods units 16 (See Figs. 4 and 5) (p. 15, ll. 7-12).

At least two lifting units 18 are mounted to said crossbeam 30 for lifting the multi-piece goods units 16 in a generally vertical direction perpendicular to the loading and unloading direction for movement of the multi-piece goods units 16 into and out of the transport compartment (p. 16, ll. 14-16).

### **CLAIM 32**

According to Independent Claim 32, and as seen in Fig. 1, an apparatus 10 is provided for at least one of loading and unloading multi-piece goods units to and from a transport compartment. The apparatus 10 includes a plurality of beam guide 23 members fixed to an overhead support structure 23 and a unitary traveling support beam 20 operatively connected to the beam guide members 32 and extending in a substantially horizontal direction for reciprocating travel into and out of the transport compartment for depositing the multi-piece goods units in the transport compartment or retrieving multi-piece goods units from the transport compartment (p. 14, ll. 23-24; p. 15, ll. 1-2). A crossbeam 30 extends in a direction substantially transverse to the support beam 20, is mounted operatively thereto and has a first end and a second end disposed opposite the first end. (See Figs. 4

and 5). A fixed length elongate first leg 28 is connected to the first end of the crossbeam 30 and extends downwardly in a substantially vertical direction from the crossbeam 30, while a fixed length elongate second leg 29 is connected to the second end of the crossbeam 30 and extends downwardly in a substantially vertical direction from the crossbeam 30 (p. 15, ll. 5-9). The first and second legs 28, 29 have respective length dimensions sufficient to extend beyond individual pieces of the multi-piece goods units and are movable toward one another to clamp the multi-piece goods units 16 and away from one another to release the multi-piece goods units 16 (p. 15, ll. 7-9). A hydraulic cylinder 18 connects the crossbeam 30 to the support beam 20, the cylinder 18 being movable between a retracted condition, in which the crossbeam 30 is moved toward the support beam 20 to lift the multi-piece goods units 16, and an extended condition, in which the crossbeam 30 is moved away from the support beam 20 to lower the multi-piece goods units 16 (p. 15, ll. 11-16).

### **CLAIM 39**

According to Independent Claim 39, a method is provided for moving multi-piece goods units between a loading region and a transport compartment. The method includes the steps of:

(1) providing a conveying unit 13 including a plurality of beam guide members 32 fixed to an overhead support structure 23 and a unitary traveling support beam 20 operatively connected to the beam guide members 32 and extending in a substantially horizontal direction for reciprocating travel into and out of the transport compartment for depositing the multi-piece goods units 16 in the transport compartment or retrieving multi-piece goods units 16 from the transport compartment, at least one gripping unit 17 having a crossbeam and two fixed length elongate legs 28, 29 extending therefrom, said legs being movable with respect to one another to engage the multi-piece goods units 16, and at least one



lifting unit 18 mounted to said crossbeam 30 and connecting the at least one gripping unit 17 to the support beam 20 (p. 14, ll. 14-24; p. 15, ll. 1-16) ;

(2) positioning the gripping unit 17 adjacent the multi-piece goods units 16 in at least one of the loading region and the transport compartment (p. 15, ll. 18-24; p. 16, ll. 1-2):

(3) engaging the multi-piece goods units 16 with the gripping unit 17 by moving the legs 28, 29 toward one another to clamp the multi-piece goods units 16 and apply opposing forces on opposite sides of the multi-piece goods units 16 (P. 16, ll. 7-12);

(4) lifting the multi-piece goods units 16 with the lifting unit 17 (p. 16, ll. 14-16);

(5) moving the support beam 20, thereby transporting the gripping unit 17 and the multi-piece goods unit 16 to the other of the loading region and the transport compartment (p. 16, ll. 16-21);

(6) lowering the multi-piece goods units 16 back on the base with the lifting unit 17; and (p. 17, ll. 5-8)

(7) disengaging the multi-piece goods units 16 from the gripping unit 17 by moving the legs 28, 29 away from one another to unclamp the multi-piece goods units 16 (p. 17, ll. 7-10).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- a. Whether claims 19-25, 27-29 and 39 are unpatentable under 35 U.S.C. §103(a) over US Patent No. 3,309,252 to Cahill (Cahill '252) in view of US Patent No. 3,788,500 to Lemelson (Lemelson '500).
- b. Whether claims 32-36 and 38 are unpatentable under 35 U.S.C. § 103(a) Cahill '252 in view of Lemelson '500 and further in view of of

US Patent No. 4,736,971 to McManus (McManus '971).

(7) ARGUMENT

a. Whether claims 19-25, 27-29 and 39 are unpatentable under 35 U.S.C. §103(a) over US Patent No. 3,309,252 to Cahill (Cahill '252) in view of US Patent No. 3,788,500 to Lemelson (Lemelson '500).

The Examiner asserts that with respect to claims 19-25, 27-29 and 39, Cahill '252 discloses an apparatus comprising the following: a conveying unit 20, 30 conveying a plurality of multi-piece goods units therein; conveying unit being guide members 31 fixed to an overhead support structure; conveying unit unitary traveling support beam 40, 55 operatively connected to beam guide members for a reciprocating travel; two gripping units 20, 30 operatively mounted to a unitary support beam 31 for movement therewith and disposed in spaced succession therealong, each gripping unit including a laterally oriented crossbeam 40 (or 23, 23a, 27), and two fixed length legs 24, 53, 54, 56 and being moveable with respect to one another (C5/L10) [such nomenclature is used by the Examiner in the Official Action dated 02/25/2008] and mounted to a crossbeam 40 (or 23, 23a, 27); two lifting units 62, 64, 66 (C4/L60-65) mounted to a crossbeam 40 for lifting multi-piece goods units in a generally vertical direction perpendicular to the loading and unloading direction for movement of the multi-piece goods units into and out of the transport compartment.

Cahill '252 admittedly does not disclose a conveying unit inserted into a transport compartment. It is however asserted that Lemelson '500 discloses rails 20, 21 that extend into a transfer compartment (Fig. 4/ 25), a conveying unit having two gripping units (C1/L38-39) disclosed one after another. This assertedly does not equate to two gripping units as part of a whole, i.e. that one gripping follows

another in successive fashion), cross member (e.g. the cross member at the top of each gripping unit) and lifting units that lifts goods off of a base in a vertical direction. Lemelson '500 therefore assertedly teaches automatic loading of cargo from an automatic warehouse to directly load into a vehicle to eliminate a manual step. C1. Therefore, the Examiner concludes, it would have been obvious to one having ordinary skill in the art to modify the apparatus of Cahill to include a conveying unit inserted into a transport compartment, as per the teachings of Lemelson '500 to eliminate manual loading.

Cahill '252 teaches an automatic warehouse wherein goods are moved around using roller conveyors which support the goods from the bottom and hanging, gripping lifters that carry the goods around the warehouse on monorails. As seen Figure 1, the goods exit the warehouse via trucks and the goods get to those trucks on roller conveyors. The Official Action refers to conveying units 20 and 30 that were factors in the decision rendering the present invention obvious.

As seen in Figure 5-7 of Cahill '252, a first carriage 20 is used for directing goods across roller conveyors and is devoid of any mechanism for lifting the goods. Therefore, the reliance in the Official Action upon carriage 20 is misplaced. The second carriage 30 includes two gripping members that may be raised or lowered using a chain mechanism as seen in Figure 8. Nevertheless, these grippers are not fixed-length elongate legs as claimed in the present application. Further, the Cahill legs accomplish the lifting wherein the present invention includes a separate lifter mechanism that is disposed intermediate the crossbeam and overhead support member to lift the entire parcel of goods at once without fear of the legs getting out of alignment thereby maintaining the integrity of the goods stack being moved.

According to Cahill '252, the legs are moveable simultaneously by a pair of chains, however, discontinuities in the pair of chains could cause one leg to move faster than the other causing the load to destabilize and therefore pose a hazard to goods and personnel. Accordingly, the Cahill '252 reference teaches away from using a central lifter as described and claimed in the present invention.

The deficiencies of Cahill '252 are not cured by Lemelson '500. The Lemelson '500 reference does not disclose, teach or suggest a plurality of beam guide members fixed to an overhead support structure and a unitary traveling support beam operatively connected to the beam guide members for reciprocatory movement as recited in the present claims. As seen in the Lemelson '500 patent, particularly in Figures 1, 2 and 3, a transport compartment is moved into a telescoping relationship with a fixed beam 14. Further, Figures 5 and 6 illustrate a load being supported on a wheeled support base for movement into a transport unit with no support from above as defined in the claims of the present invention. Therefore, the Lemelson '500 reference is an improper reference and therefore, it cannot be used to support an obviousness rejection of the claims of the present application.

Claim 19 of the present application recites "two fixed length elongate legs." The term "fixed", as set forth in Applicants' claims, has the meaning that the length of the "elongate leg" is invariant – that is, the length of the "elongate legs" does not change. However, the Examiner has asserted that the term "fixed", as set forth in Applicants' claims, has the meaning that the "elongate legs" are "stationary." It is submitted that the Examiner's assertion that the term "fixed" has a meaning of "stationary" – and not a meaning of unchanging or non-varying – is an incorrect assertion. It is clear that the term "fixed" as found, for example, in the recitation of claim 19 of the present application of "two fixed length elongate legs", is a term that modifies the next-following term "length" – i.e., "fixed length."

As a consequence of the Examiner's incorrect assertion of the meaning of the term "fixed", the Examiner has wrongfully applied Cahill '252 to reject the claims of the present application. Namely, the Examiner states that at any point in time Cahill '252's grippers 30 are "stationary" such that, without actuation of carriage motor 44, there is no translation along beams 31, and, without actuation of raise/lift motor 68 which causes "projection and retraction of the jaws 56 along the arms 54" (C4/L65-70), the gripping legs cannot raise - i.e. retract – and, without actuation of motor 77, legs 54 (or 24) cannot be driven "toward and away from each other, in order to clamp and release stacked articles." (C5/L10-15).

Thus, the Examiner wrongly asserts that the term "fixed" means "fixed" with respect to movement, whereas, as noted above, the term "fixed" should be correctly seen as modifying the term "length." As clearly seen in Figure 4 of the present application, the legs 28 and 29 of the clamping units 15 of the present invention are nonadjustable and have a length that is invariant, i.e., "fixed." The length of the legs 28 and 29 of the clamping units 15 of the present invention does not change with movement of the gripping unit 17. In contrast, as seen in Figures 8 and 9 of Cahill '252, the gripping units of Cahill '252 that lift cargo have a complex system requiring a change in the length of the legs in order to effect a lift of cargo. There, a chain driven pinion 58 operatively engages the toothed rack 57 of the gripping arm for movement thereof in raising and lowering cargo. Accordingly, there is no interpretation available that would result in the Cahill '252 arms that lift cargo having a fixed length. Therefore, in view of the varying lengths of the gripping arms of Cahill '252, the Examiner cannot assert that Cahill '252 teaches or discloses the "fixed length" feature of the gripping legs of the present invention.

Based on the foregoing it is apparent that Cahill '252 does not disclose the elements of the present invention in a manner described in the Official Action to assertedly render the present invention obvious when combined with Lemelson

'500. In addition, the combination of Cahill '252 and Lemelson '500 does not result in the present invention. Accordingly, the combination of Cahill '252 and Lemelson '500 is improper and cannot be used to render the present invention obvious.

It is therefore respectfully asserted that the rejection of Claims 19-25, 27-29 and 39 under 35 U.S.C. §103(a) over US Patent No. 3,309,252 to Cahill (Cahill '252) in view of US Patent No. 3,788,500 to Lemelson (Lemelson '500) is improper and should be reversed.

b. Whether claims 32-36 and 38 are unpatentable under 35 U.S.C. § 103(a) Cahill '252 in view of Lemelson '500 and further in view of of US Patent No. 4,736,971 to McManus (McManus '971).

As in the prior argument, with respect to the Official Action, the Examiner asserts that with respect to claims 19-25, 27-29 and 39, Cahill '252 discloses an apparatus comprising the following: a conveying unit 20, 30 conveying a plurality of multi-piece goods units therein; conveying unit being guide members 31 fixed to an overhead support structure; conveying unit unitary traveling support beam 40, 55 operatively connected to beam guide members for a reciprocating travel; two gripping units 20, 30 operatively mounted to a unitary support beam 31 for movement therewith and disposed in spaced succession therealong, each gripping unit including a laterally oriented crossbeam 40 (or 23, 23a, 27), and two fixed length legs 24, 53, 54, 56 and being moveable with respect to one another (C5/L10) and mounted to a crossbeam 40 (or 23, 23a, 27); two lifting units 62, 64, 66 (C4/L60-65) mounted to a crossbeam 40 for lifting multi-piece goods units in a generally vertical direction perpendicular to the loading and unloading direction for movement of the multi-piece goods units into and out of the transport compartment.

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McManus '971 is asserted to disclose a support beam 13, crossbeam 20, first and second legs 28, 32 and a hydraulic cylinder 15 capable of lifting aluminum billets of varying size and configurations, e.g. more than one billet per lift. C1. The Examiner therefore concludes that it would have been obvious to combine the references in the asserted manner in order to render the present claims obvious.

McManus '971 discloses a billet grabber for grabbing one-piece blocks of metal having a movable carriage 12 supported on a pair of overhead rails 13 by powered wheels 11 (Col. 2, ll. 60-63). The McManus '971 billet grab is for moving move single metal pieces in the form of billets between a smelting process and further treatment of the metal (Col.1, ll. 10-12). As seen in Figure 2, the McManus '971 device uses two abutment members 32, 36 to engage the billet and can move the billet from side to side with respect to the center of the cross member 20.

The McManus '971 device fails on several bases to anticipate the present invention. McManus '971 does not include, teach or suggest a plurality of beam guide members that are operatively connected to a unitary traveling support beam. In addition, the rails 13 of McManus '971 are fixed in position, and there is no teaching or suggestion to do otherwise. Further the McManus '971 rails 13 are incapable of reciprocating travel into and out of a transport compartment for depositing multi-piece goods units in a transport compartment or retrieval of multi-piece units from the transport compartment. The McManus '971 gripping assembly is also incapable of engaging and loading multi-piece goods units and the McManus '971 reference teaches only movement of unitary workpieces. Further, the McManus '971 device is configured for transverse movement of the billet and does not keep the billet centered with respect to the cross member in accordance with the present invention. Therefore, the McManus '971 patent does not anticipate the present invention as recited in Claims 32-36 and it is respectfully requested that the outstanding rejection of Claims 32-36 under 35 USC § 102(b) be withdrawn.

McManus '971 does nothing to cure the deficiencies of either Cahill '252 or Lemelson '500. Notably, the gripper of McManus '971 includes one fixed member and one moveable member and therefore, McManus '971 does not include elongate legs being movable with respect to one another and is not adaptable to move large, multiple piece loads that require some form of balancing to achieve smooth operation of the device causing the movement which is achieved in the present invention by symmetric load gripping action, an act that the McManus '971 device cannot perform.

Based on the foregoing it is apparent that none of Cahill '252, Lemelson '500 and McManus '971 disclose the elements of the present invention in a manner described in the Official Action to assertedly render the present invention obvious



individually or when combined. In addition, any combination of Cahill '252, Lemelson '500 and McManus '971 does not result in the present invention. Accordingly, the combination of Cahill '252, Lemelson '500 and McManus '971 is improper and cannot be used to render the present invention obvious.

It is therefore respectfully asserted that the rejection of Claims 32-36 and 38 are unpatentable under 35 U.S.C. § 103(a) Cahill '252 in view of Lemelson '500 and further in view of US Patent No. 4,736,971 to McManus (McManus '971) is in error and should be reversed.

(8) CONCLUSION

In view of the foregoing discussion, it is respectfully requested that the Honorable Board of Patent Appeals and Interferences overrule the final rejection of Claims 19-39 over the cited art, and hold that the Appellants' claims be allowable over such art.

Respectfully submitted,



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CLAIMS APPENDIX

1-18 (Canceled)

19. An apparatus for at least one of loading and unloading multi-piece goods units to and from a transport compartment in a loading and unloading direction, the apparatus comprising:
- at least one conveying unit being at least partly inserted into the transport compartment and simultaneously conveying a plurality of multi-piece goods units therein;
  - having:
    - a plurality of beam guide members fixed to an overhead support structure;
    - a unitary traveling support beam operatively connected to the beam guide members for reciprocating travel into and out of the transport compartment;
    - at least two gripping units operatively mounted to the unitary support beam for movement therewith and disposed in spaced succession therealong for movement into and out of the transport compartment, each gripping unit including a laterally oriented crossbeam and two fixed length elongate legs mounted to said crossbeam and being movable with respect to one another, the multi-piece goods units being clamped between the two fixed length elongate legs in general centered alignment with respect to the support beam when the gripping unit engages the multi-piece goods units;
    - at least two lifting units mounted to said crossbeam for lifting the multi-piece goods units in a generally vertical direction perpendicular to the loading and unloading direction for movement of the multi-piece goods units into and out of the transport compartment.

20. The apparatus according to claim 19, wherein said conveying unit is installed fixedly in a loading region; and is movable upon supporting rollers in the loading region.
21. The apparatus according to claim 19, wherein:  
at least one of said gripping units has pick-up region; and  
said guide and support unit is disposed above said pick-up region.
22. The apparatus according to claim 21, wherein:  
said conveying unit is installed fixedly in a loading region of a building; and  
said guide and support unit is to be mounted on an overhead portion of the building.
23. The apparatus according to claim 19, wherein at least one of said gripping units is mounted displaceably on said guide and support unit.
24. The apparatus according to claim 19, wherein said guide and support unit has: an end pointing in a direction of the transport compartment; and a supporting element disposed at least at said end.
25. The apparatus according to claim 19, wherein said gripping units move with at least two degrees of freedom.
26. (Canceled)
27. The apparatus according to claim 19, wherein said gripping units move freely with regard to at least one degree of freedom during at least one of a loading operation and an unloading operation.

28. The apparatus according to claim 19, wherein said conveying unit has supporting rollers for supporting at least one multi-piece goods unit.
29. The apparatus according to claim 19, wherein transport compartment is a commercial motor vehicle.
- 30-31 (Canceled)
32. An apparatus for at least one of loading and unloading multi-piece goods units to and from a transport compartment, the apparatus comprising:  
a plurality of beam guide members fixed to an overhead support structure;  
a unitary traveling support beam operatively connected to the beam guide members and extending in a substantially horizontal direction for reciprocating travel into and out of the transport compartment for depositing the multi-piece goods units in the transport compartment or retrieving multi-piece goods units from the transport compartment;  
a crossbeam extending in a direction substantially transverse to the support beam, mounted operatively thereto and having a first end and a second end disposed opposite the first end;  
a fixed length elongate first leg connected to the first end of the crossbeam and extending downwardly in a substantially vertical direction from the crossbeam;  
a fixed length elongate second leg connected to the second end of the crossbeam and extending downwardly in a substantially vertical direction from the crossbeam, the first and second legs having respective length dimensions sufficient to extend beyond individual pieces of the multi-piece goods units and being movable toward one another to clamp the multi-piece goods units and away from one another to release the multi-piece goods units; and

a hydraulic cylinder connecting the crossbeam to the support beam, the cylinder being movable between a retracted condition, in which the crossbeam is moved toward the support beam to lift the multi-piece goods units, and an extended condition, in which the crossbeam is moved away from the support beam to lower the multi-piece goods units.

33. The apparatus according to claim 32, wherein the crossbeam is connected to the support beam for translational movement with respect to the support beam to center the crossbeam and the multi-piece goods units with respect to the transport container.
34. The apparatus according to claim 32, wherein the crossbeam is connected to the support beam for pivotal movement with respect to the support beam for alignment of said crossbeam and said multi-piece goods units with respect to the transport container.
35. The apparatus according to claim 32, wherein the crossbeam includes a hydraulic driver for moving the first and second legs with respect to one another, the hydraulic driver being movable between a clamped condition, in which the legs are moved toward one another to engage the sides of the goods units with a force-locking connection, and a unclamped condition, in which the legs are moved away from one another to disengage the goods units.
36. The apparatus according to claim 32, wherein the legs do not extend below the goods units and the goods units are free of any support between the goods units and a floor surface.
37. (Cancelled)

38. The apparatus according to claim 32, further comprising a frame having rollers and supporting the support beam.

39. A method for moving multi-piece goods units between a loading region and a transport compartment, the method comprising the steps of: providing a conveying unit including a plurality of beam guide members fixed to an overhead support structure and a unitary traveling support beam operatively connected to the beam guide members and extending in a substantially horizontal direction for reciprocating travel into and out of the transport compartment for depositing the multi-piece goods units in the transport compartment or retrieving multi-piece goods units from the transport compartment, at least one gripping unit having a crossbeam and two fixed length elongate legs extending therefrom, said legs being movable with respect to one another to engage the multi-piece goods units, and at least one lifting unit mounted to said crossbeam and connecting the at least one gripping unit to the support beam; positioning the gripping unit adjacent the multi-piece goods units in at least one of the loading region and the transport compartment; engaging the multi-piece goods units with the gripping unit by moving the legs toward one another to clamp the multi-piece goods units and apply opposing forces on opposite sides of the multi-piece goods units; lifting the multi-piece goods units with the lifting unit; moving the support beam, thereby transporting the gripping unit and the multi-piece goods unit to the other of the loading region and the transport compartment; lowering the multi-piece goods units back on the base with the lifting unit; and

disengaging the multi-piece goods units from the gripping unit by moving the legs away from one another to unclamp the multi-piece goods units.

EVIDENCE APPENDIX

None



RELATED PROCEEDINGS APPENDIX

None